CollegeBoard
Advanced Placement Program

Student Performance Q&A:

2005 AP® Macroeconomics Free-Response Questions

The following comments on the 2005 free-response questions for AP® Macroeconomics were written by the Chief Reader, Arthur Raymond of Muhlenberg College in Allentown, Pennsylvania. They give an overview of each free-response question and of how students performed on the question, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student performance in these areas are also provided. Teachers are encouraged to attend a College Board workshop, to learn strategies for improving student performance in specific areas.

Question 1

What was the intent of this question?

The question tested students' understanding of aggregate analysis, including aggregate demand, aggregate supply, shifts of aggregate demand, and monetary policy. The first part of the question required students to demonstrate understanding of the concept of equilibrium and full employment. The second part asked students to demonstrate and explain how the output and price level of the Unites States would be affected by a recession in Japan, a major trading partner of the United States. In part (c) students were asked to identify an open market operation to curb the recession in the United States produced by the recession in Japan. Parts (d) and (e) tested the students' understanding of the real interest rate.

How well did students perform on this question?

Student performance was quite good. The average score was about 7.83 out of a possible 13 points, representing about 60 percent of the maximum. Questions about the real interest rate proved to be the most difficult.

What were common student errors or omissions?

A major recurring theme is the inability of students to properly label the required graphs, indicating a lack of understanding of what the graphs really mean. Students' graphs of money supply and money demand often confused the quantity of money with real GDP. A fundamental requirement for analyzing policy and adjustments to equilibrium is a complete understanding of

the necessary concepts contained in standard graphs of aggregate supply and aggregate demand and money supply and money demand. Students also misunderstood the concept of the real interest rate.

Based on your experience of student responses at the AP Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?

It is crucial for students to understand how aggregate supply and demand determine equilibrium output in the short run and the long run, and what causes aggregate supply and demand to change. Equally important is an understanding of how money supply and money demand determine nominal interest rates and how changes in money supply or money demand affect nominal interest rates and aggregate demand. Although the money supply and money demand framework explains the nominal interest rate, one can infer that an increase in the money supply, by reducing the nominal rate and increasing the price level, will reduce the real interest rate.

Question 2

What was the intent of this question?

This question tested students' understanding of how an increase in the government deficit affects the real interest rate through the loanable funds market, and how changes in real interest rates affect economic growth and the international value of a currency. Students were asked to explain that an increased government deficit will increase real interest rates, and that an increase in real interest rates will reduce the rate of economic growth because it reduces the capital stock (or growth of the capital stock). An increase in the real interest rate of a nation will also produce a net inflow of financial capital, increasing the demand for the nation's currency, which increases the value of the nation's currency on the foreign exchange market.

How well did students perform on this question?

The mean score on this question was 4.0 out of a possible 8 points, constituting 50 percent of the maximum. Points were earned over the entire possible range, but the question on the relationship between the real interest rate and economic growth was the most difficult one for students.

What were common student errors or omissions?

Students often used the money supply and money demand framework to explain a real interest rate change, despite the fact that the question gave a loanable funds framework. More significant was the confusion on how changes in investment affect economic growth. Many students associated changes in investment with changes in aggregate demand and concluded that economic growth would change. The correct causation is from changes in investment to changes in a nation's capital stock, which does affect long-run growth. Students also frequently missed the connection between changes in the real interest rate and the demand for financial assets, which produces a change in the demand for currency and currency value.

Based on your experience of student responses at the AP Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?

A very important distinction to make is the difference in the effect of a change in investment in plant and equipment on aggregate demand and on a nation's capital stock. In the short run, changes in investment demand produce changes in aggregate demand and can change short-run equilibrium output. In the long run, changes in investment change the capital stock, which affects the long-run growth path of GDP. In order to understand how interest-rate changes affect currency values, it is essential that students know that interest rates are returns on financial assets and so affect the international movement of financial capital.

Question 3

What was the intent of this question?

The question tested students' understanding of the short-run Phillips curve and the long-run Phillips curve. Students were asked to construct a short-run Phillips curve based on data given in the question and demonstrate understanding of what could cause the short-run Phillips curve to shift. Students were then asked to draw a long-run Phillips curve and demonstrate understanding of its interpretation.

How well did students perform on this question?

Students performed well on this question, earning an average score of 3.16 out of 6 possible points. This represented almost 53 percent of the maximum. The most difficult points to earn were those related to the shift of the short-run Phillips curve and the shape of the long-run Phillips curve.

What were common student errors or omissions?

Students were often unaware of what the Phillips curve is, confusing it with aggregate demand, aggregate supply, and other macro concepts. Many of those who did recognize the short-run Phillips curve were confused about the nature of shifts in the short-run Phillips curve and about the shape of the long-run Phillips curve.

Based on your experience of student responses at the AP Reading, what message would you like to send to teachers that might help them to improve the performance of their students on the exam?

Relate the aggregate supply and aggregate demand framework to the Phillips curve. If aggregate demand shifts, there will be an inverse relationship between unemployment and inflation in the short run. This is the relationship depicted by the short-run Phillips curve. If short-run aggregate supply shifts left, then there is higher unemployment and higher inflation, amounting to a shift to the right of the short-run Phillips curve. In the long run, output will always return to the long-run equilibrium, which means that inflation does not affect the level of production or unemployment. In the long run, the Phillips curve is vertical.